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§ 80.815 Installation of radiotelegraph auto alarm.

Installation of a radiotelegraph auto alarm must comply with the following conditions.

(a) The auto alarm must be located in the radiotelegraph operating room and be installed and protected to insure proper operation. The radiotelegraph auto alarm system must be operated from the radiotelegraph operating room. A switch must be provided to:

(1) Transfer the main antenna from all other equipment and connect it to the radiotelegraph auto alarm receiver and place the auto alarm in service and, back to the original configuration. A voltmeter must be provided for the determining that the supply voltages are within the operating limits.

(2) [Reserved]

(b) The auto alarm must give an audible warning in the radiotelegraph operating room, in the radio officer's cabin, and on the navigating bridge. The alarm must operate continuously after the alarm has been actuated by a radiotelegraph alarm signal or by failure of the system, until manually turned off. Only one switch for stopping the alarm is authorized, and this must be located in the radiotelegraph operating room and be capable of manual operation only. However ships operating under the general exemption of § 80.836(c) may install an additional switch on the bridge for stopping the warning apparatus.

(c) Failure of the auto alarm if of a type approved prior to July 23, 1951, to function normally due to prolonged interference must operate a visual indicator on the bridge. The type and method of installation of such visual indicator must comply with the requirements of the U.S. Coast Guard.

(d) The power supply voltage of an auto alarm must be maintained within definite upper and lower limits. The power supply must have an auxiliary device which:

(1) Will energize the alarm if this power supply fails or its voltage exceeds the limits specified for the particular type of auto alarm involved; or

(2) Will automatically connect the auto alarm to an auxiliary power sup-

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ply, the voltage of which is within the specified limits.

§ 80.817 Tests of radiotelegraph auto alarm.

(a) The radio officer must at least once every 24 hours while the ship is in the open sea:

(1) Test the auto alarm by using the testing device to determine whether the auto alarm will respond to not less than 4 nor more than 12 consecutive dashes having an approximate duration of 4 seconds and an approximate spacing of 1 second.

(2) Determine the proper functioning of the auto alarm receiver while connected to its normal antenna, by actual operation and comparison of received signals with similar signals received on 500 kHz by the main receiver.

(b) If the auto alarm is not in proper operating condition, the radio officer must report that fact to the master or officer on watch on the bridge.

(c) A statement that the tests specified in this section have been made, and the results of such tests, must be inserted in the radiotelegraph station log.

§ 80.818 Direction finding and homing equipment.

Each compulsory ship of 1,600 gross tons or over whose keel was laid:

(a) *Prior to May 25, 1980*, must be equipped with radio direction finding apparatus in operating condition and approved by the Commission during an inspection.

(b) *On or after May 25, 1980*, must be equipped with radio direction finding apparatus having a homing capability in accordance with § 80.824.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 29960, June 1, 1998]

§ 80.819 Requirements for radio direction finder.

(a) The radio direction finding apparatus must:

(1) Be capable of receiving signals A1A, A2B and R2B emission, on each frequency within the band 285-515 kHz assigned by the Radio Regulations for distress and direction finding and for maritime radio beacons, and be calibrated to take bearings on such signals

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from which the true bearing and direction may be determined; and

(2) Possess a sensitivity, sufficient to permit the taking of bearings on a signal having a field strength of 50 microvolts per meter.

(b) The calibration of the direction finder must be verified by check bearings or by a further calibration whenever any changes are made in the physical or electrical characteristics or the position of any antennas, and whenever any changes are made in the position of any deck structures which might affect the accuracy of the direction finder. In addition, the calibration must be verified by check bearings at yearly intervals. A record of the calibrations, and of the check bearings made of their accuracy and the accuracy of the check bearings must be kept on board the ship for a period of not less than 1 year.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 29660, June 1, 1998]

§ 80.820 Auxiliary receiving antenna.

An auxiliary receiving antenna must be provided when necessary to avoid unauthorized interruption or reduced efficiency of the required watch because the normal receiving antenna is not available because a radio direction finder on board the vessel is operated.

§ 80.821 Installation of direction finder.

(a) The direction finder must be located to minimize interference from noise.

(b) The direction finder antenna system must be erected so that the determination of bearings will not be hindered by the proximity of other antennas, cranes, wire halyards, or large metal objects.

§ 80.822 Contingent acceptance of direction finder calibration.

When the required calibration can not be made before departure from a harbor or port for a voyage in the open sea, the direction finder may be tentatively approved on condition that the master certifies in writing that the direction finder will be calibrated by a competent technician.

[63 FR 29660, June 1, 1998]

§ 80.823 Check bearings by authorized ship personnel.

The requirement for calibration by check bearings is met if:

(a) The required verification by check bearings are made not more than 90 days prior to the date of the annual detailed inspection of the radio-telegraph station;

(b) The verification consists of a comparison of simultaneous visual and radio direction finder bearings. At least one comparison bearing must be taken in each quadrant, within plus or minus 20 degrees from the following bearings relative to the ship's heading: 45 degrees; 135 degrees; 225 degrees; 315 degrees;

(c) The verification shows the visual bearing relative to the ship's heading and the difference between the visual and radio direction finder bearing, and the date each check bearing is taken.

§ 80.824 Homing facility requirements.

(a) Direction finding equipment used on compulsory vessels whose keel was laid on or after May 25, 1980, must additionally have a homing facility which is:

(1) Capable of operating with A1A, A2B, H2B and H8E emission on any frequency in the band 2167-2197 kHz;

(2) Capable of taking direction finding bearings on the radiotelephone distress frequency 2182 kHz without ambiguity of sense within an arc of 30 degrees on either side of the bow;

(3) Installed with due regard to CCIR Recommendation 428-2;

(4) Sufficiently sensitive, in the absence of interference, to take bearings on a signal having a field strength of 25 microvolts per meter;

(5) Capable of determining its accuracy by comparison of visual or calculated bearings and homing facility bearings. Comparisons must be made at -30, 0 and +30 degrees relative to the ships heading to show that the correct sense is indicated.

(b) [Reserved]

§ 80.825 Radar installation requirements and specifications.

(a) Radar installations on board ships that are required by the Safety Convention or the U.S. Coast Guard to be equipped with radar must comply with